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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/693,799	10/20/2000	Yuda Yehuda Luz	CE08159R	8689

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EXAMINER	
WILLIAMS, HOWARD L	
ART UNIT	**PAPER NUMBER**
2819	

DATE MAILED: 05/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/693,799	LUZ ET AL.	
	Examiner	Art Unit	
	Howard L. Williams	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-10 and 12-17* is/are rejected.

7)☒ Claim(s) *4 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claims 3 and 10 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. These two claims add nothing new to the limitations already included in the respectively preceding claims. The previous claims 2 and 9 already recite that the filter is a digital IIR filter. The generic transfer function -- so generic that it "describes" any digital filter-- is not seen to further limit the preceding claims.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> *A person shall be entitled to a patent unless –*
> *(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.*

Claims 8-10 are rejected under 35 U.S.C. 102(e) as anticipated by U.S. Patent 6002925 A to Vu et al.

Vu et al. discloses amplification by an amplifier (40; fig. 1), digitizing (ADC 52; fig. 1), lowpass filtering (LPF 57; fig. 1), calculating the average power (col. 11, lines 62) and setting the gain of the amplifier (54; fig. 1). The AGC block supplies the gain control setting to amplifiers 40 and 48. Regarding claims 9 and 10, Vu provides further detail of the LPF 57 and AGC block 58 in figure 7. The signals are digital by virtue of the ADC 52 so the filter is also digital. In figure 7 box 57 is illustrated as a recursive filter (409, 410) so the label of infinite impulse response is appropriate.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5, 6, and 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6002925 A to Vu et al in view of U.S. Patent 5422909 A to Love et al.

Regarding claims 12-17, Vu was not noted to detail the specifc sampling rate over Love et al. discloses 4x oversampling in a transceiver. It would have been obvious to use the converter of Love et al. in Vu et al. to obtain the benefits of oversampling, i.e. relaxed analog filtering requirements, obtained from oversampling in converters such as the ever more popular delta-sigma converters.

Regarding claims 1-3, 5, and 6, Vu et al. did not clearly illustrate the gain step as being obtained from a look-up table. Love et al. discloses a look-up table (650; fig. 4) and the use of a look-up table to store precalculated step values for various average power values would have been obvious because it would lessen the calculation requirement on the DSP.

Claim 7 is rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent 6002925 A to Vu et al in view of U.S. Patent 5422909 A to Love et al. and Crochiere et al. *Interpolation and Decimation of Digital Signals -- A Tutorial Review.*

Vu et al. in view of Love et al. although disclosing decimation, as would have been expected in some form for an oversampling arrangement, do not disclose a multi-stage implementation of the decimation with an IIR low pass filter between the two decimation stages. Crochiere et al. discloses beginning on page 438 multistage implementation of decimators (and interpolators). On page 439 left hand column numerous reasons for implementing the overall decimator in a multi-stage architecture are given. It would have been obvious from the teachings of Crochiere to build the Love

et al. decimator as a multi-stage decimator to achieve the overall rate reduction for the reasons given by Crochiere on page 439.

Claims 4 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 6654594 B1 to Hughes et al. also discloses a digital gain control loop for receivers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Howard L. Williams at telephone number (571) 272-1815.

Howard L. Williams

4/29/05
Voice: (571) 272-1815

Howard L. Williams
Primary Examiner
Art Unit 2819